

FINAL REPORT ON NASA CONTRACT NAG 5-2147 (CU # 1535813)

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This contract, and its extensions, has been concerned with observations and analyses of spectroscopic data obtained with the IUE satellite: in particular, with Spectroscopy of WN Stars.

Newly acquired near IR spectra of two Of type stars, HD16691 and HD190429, showed emission in the 2.189 micron HeII line. These spectra would rather indicate a classification of WN types. A paper was submitted to, and published by Astrophysical Journal Letters, (ApJL 445, 35, 1995) reporting on this result, and showing that in the optical, and UV (with IUE) the spectra were those of Of stars, and NOT WN types. These stars are clearly "transition" objects in their classification, and probably also their evolution between Of and Wolf-Rayet stages.

In addition to this work, studies of variability in two WN stars are nearing completion. This is being carried on in collaboration with colleagues at University College, London, and the University of Montreal. The papers should be submitted for publication in the next month or so.

"UV Variability of HD 93131 (WN7): Epoch-linked P-Cygni Profile changes".
Authors: M.J.Dalton, A.J.Willis, P.S.Conti, to Astronomy & Astrophysics.
This data was secured over 4-shifts/2-days in 1993 when we were unable to observe the star MCA1B in M33, due to it being too faint.

"IUE Spectral Monitoring of HD 50896: the 1992 and 1994 Campaigns".
Authors: M.J.Dalton, A.J.Willis, N. St-Louis, A.F.J.Moffat, P.S.Conti, to Astronomy & Astrophysics. This paper will deal with results of our two campaigns on IUE - Goddard and Vilspa in 1992, and the IUE MEGA campaign secured in 1994. This work refers to CONTINUOUS coverage of spectral line variability to better understand the physics of the processes.

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